SIEMENS

DIGISCAN M

SP

System Manual

Wiring Diagrams

including Function Description

© Siemens AG 2002
The reproduction, transmission or use of this document or its contents is not permitted without express written authority. Offenders will be liable for damages. All rights, including rights created by patent grant or registration of a utility model or design, are reserved.

Register 6
Print No.: SPB7-420.844.01.02.02
Replaces: SPB7-420.844.01.01.02

English
Doc. Gen. Date: 11.02
66 31 167

Chapter	Page	Revision
All	All	02

Document revision level

The document corresponds to the version/revision level effective at the time of system delivery. Revisions to hardcopy documentation are not automatically distributed.

Please contact your local Siemens office to order current revision levels.

Disclaimer

The installation and service of equipment described herein is to be performed by qualified personnel who are employed by Siemens or one of its affiliates or who are otherwise authorized by Siemens or one of its affiliates to provide such services.

Assemblers and other persons who are not employed by or otherwise directly affiliated with or authorized by Siemens or one of its affiliates are directed to contact one of the local offices of Siemens or one of its affiliates before attempting installation or service procedures.

Page

1 System overview 1 - 1

General . . . . . 1 - 1
Documents required . . . . . 1 - 1
DIGISCAN M (standard system) . . . . . 1 - 1
Additional parts to the DIGISCAN M system . . . . . 1 - 2
Abbreviations . . . . . 1 - 2

2 Diagrams 2 - 1

Cable connections . . . . . 2 - 1
Block diagram . . . . . 2 - 2

3 Connectors 3 - 1

Acquisition workstation connectors . . . . . 3 - 1

4 Function description 4 - 1

5 List of components 5 - 1

Cables . . . . . 5 - 1
Fuses . . . . . 5 - 2

6 Changes to previous version 6 - 1

This page intentionally left blank.

General

This document shows the main functions of the DIGISCAN M system and the electrical connections between the parts. For detailed information about electrical components within the parts and options, see product-accompanying documentation.

Documents required

- MAMMOMAT 3000 Nova Wiring Diagrams
- Product-accompanying documentation

DIGISCAN M (standard system)

An overview of the DIGISCAN M system is provided below. The options of the standard system are appropriately identified.

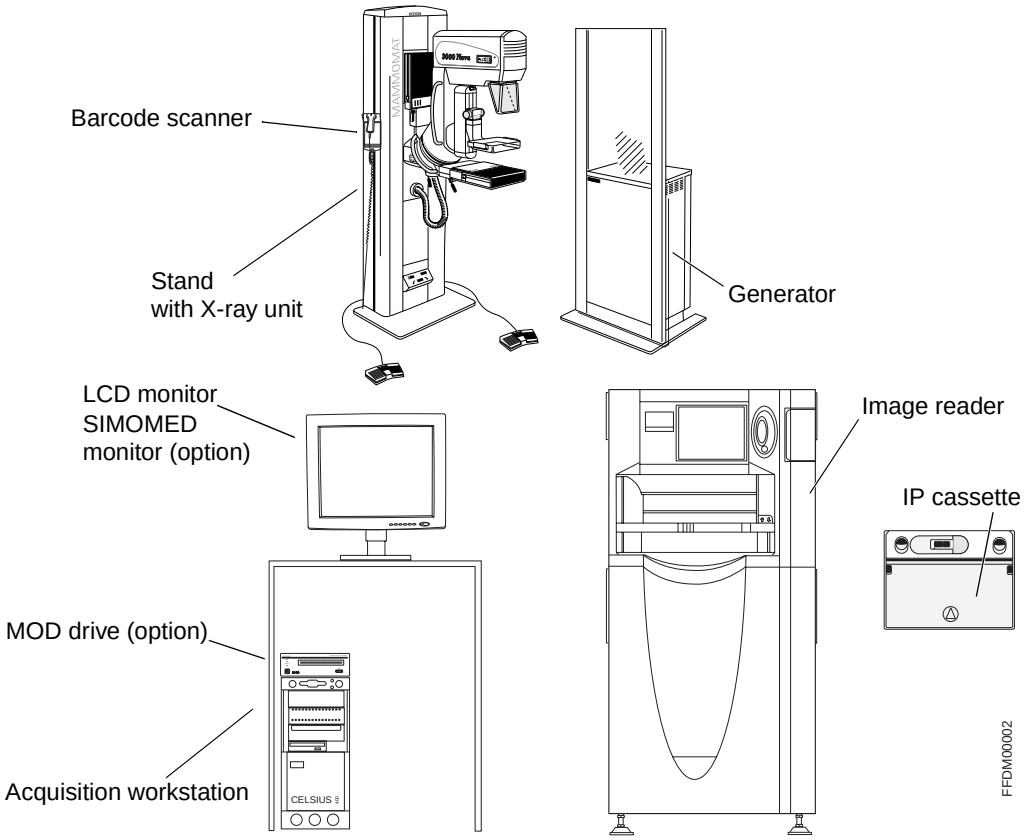

Fig. 1

Additional parts to the DIGISCAN M system

NOTE	**For actual system options, see price book.**

- Viewing station
- Archive system
- Hardcopy camera

NOTE	**Use only released hardcopy cameras or a hardcopy camera that can receive DICOM print, has a resolution of 50x50 µm, density ≥ 3.5 and can print 18x24 and 24x30 film format.**

- HIS/RIS
- Communication switch

Abbreviations

CPU	= Central Processing Unit
DICOM	= Digital Imaging and Communication in Medicine
EDR	= Exposure Data Recognizer
HDD	= Hard Disk Drive
HIS	= Hospital Information System
IP	= Imaging Plate
LCD	= Liquid Crystal Display
MOD	= Magneto Optical Disc
RAM	= Random Access Memory
RIS	= Radiology Information System
SCSI	= Small Computer System Interface

Cable connections

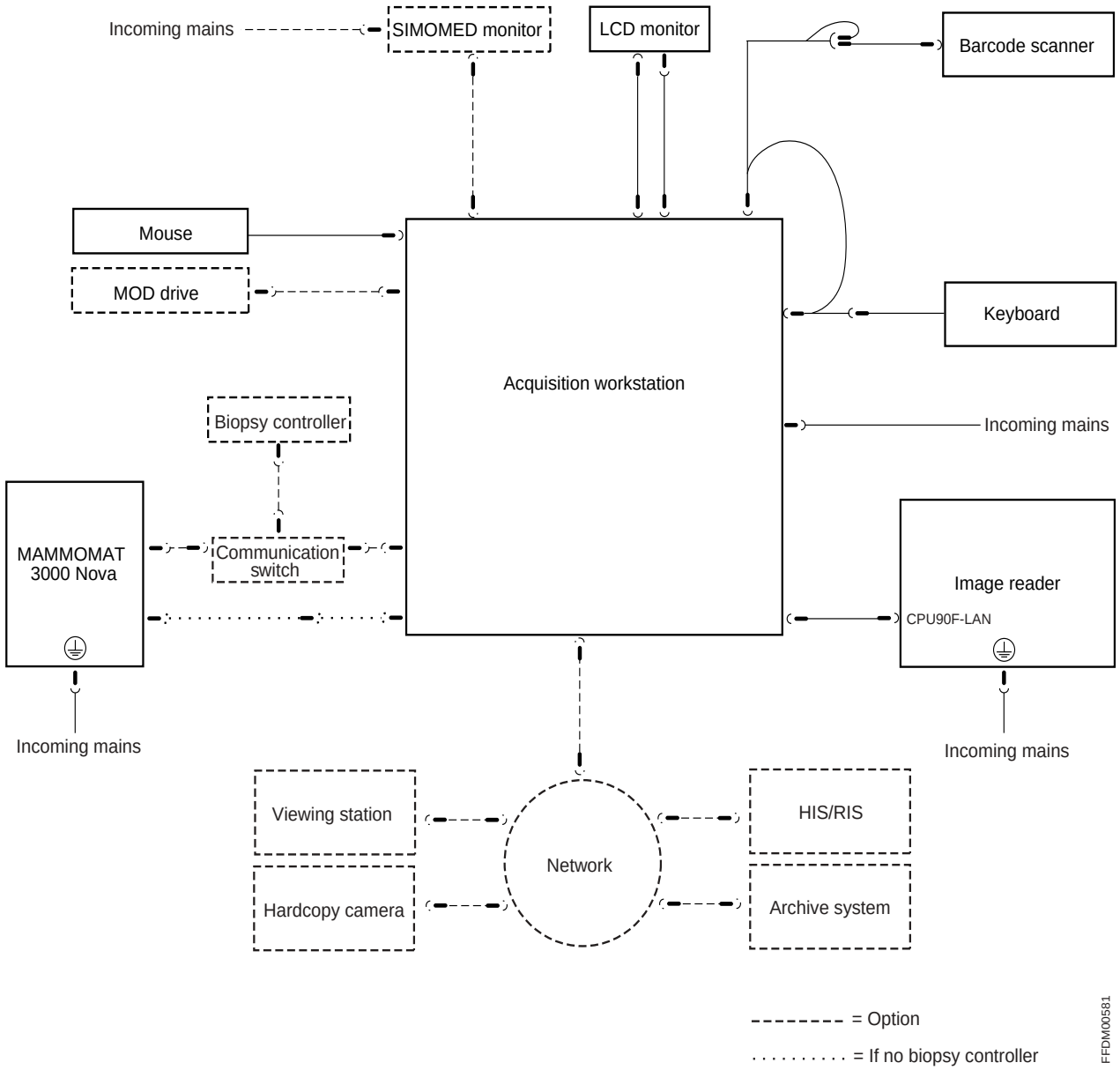

Fig. 1 Cable connections

Block diagram

NOTE

The acquisition workstation and the image reader can handle 100-240 V.

For instructions how to connect MAMMOMAT 3000 Nova to the mains, see MAMMOMAT 3000 Nova Wiring Diagrams.

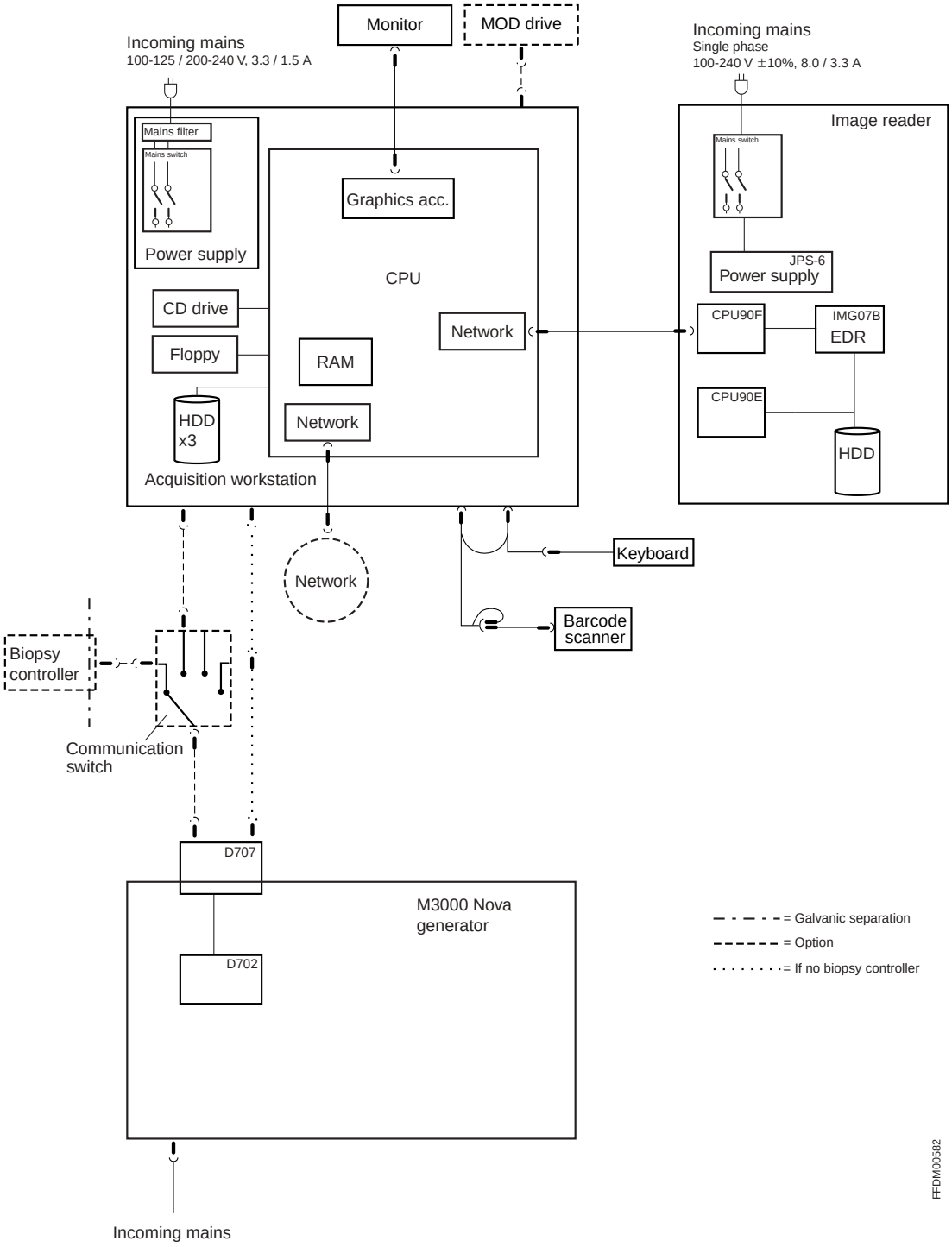

Fig. 2 Block diagram

Acquisition workstation connectors

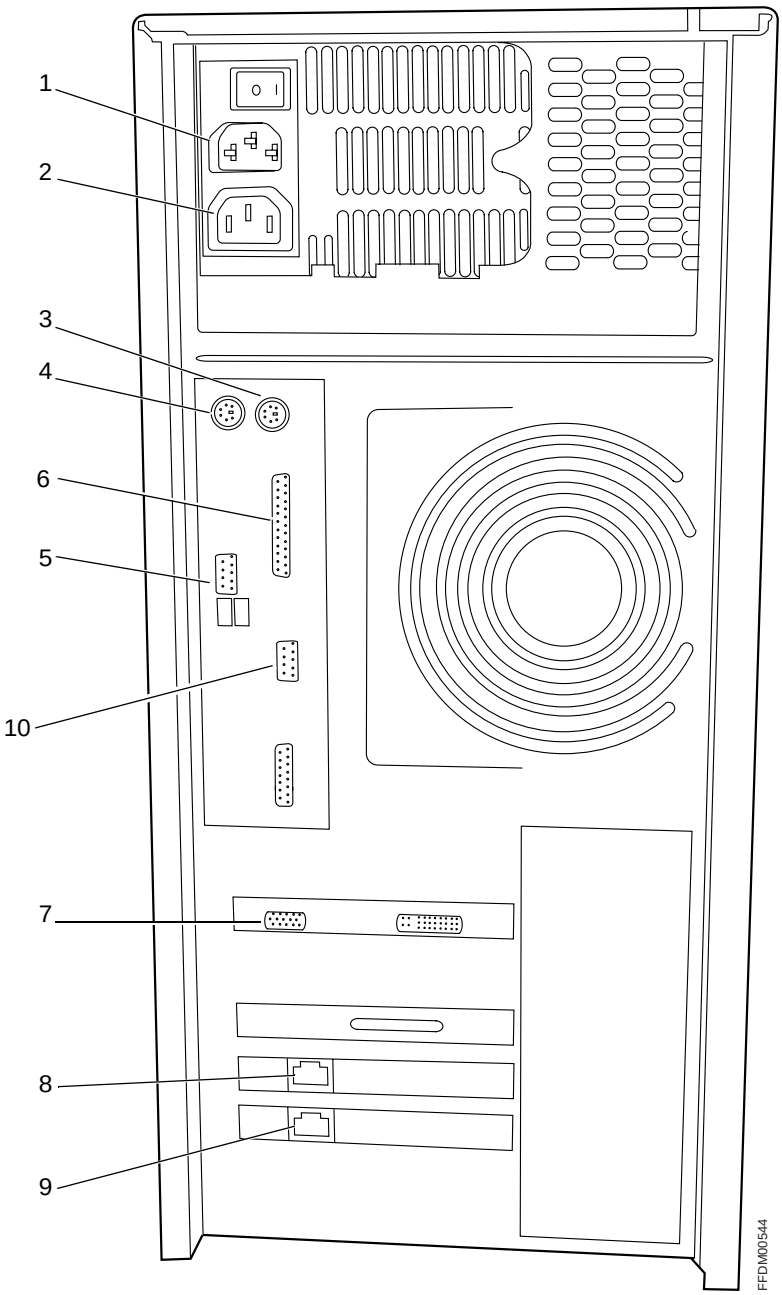

Fig. 1 Acquisition workstation connections

1 Mains power supply
2 Mains supply for LCD monitor
3 Keyboard interface (also power supply for barcode scanner)
4 Mouse interface
5 MAMMOMAT interface
6 Dongle interface
7 Monitor interface
8 Image reader connector
9 Network connector
10 Barcode scanner interface

NOTE **For information how to connect the options, see product-accompanying documentation.**

This page intentionally left blank.

For name of system components see Fig. 2, Page 2 - 2 “Block diagram”.

Cassette including a high resolution Computed Radiography (CR) imaging plate is exposed in the MAMMOMAT 3000 Nova. (IP cassette)

After exposure, the identification barcode of the used IP cassette is read by means of a barcode scanner and with the same device, a barcode is read representing the object view used at the exposure. These data are fed to the acquisition workstation and associated to the patient under examination.

The cassette is entered into the image reader where the cassette identification barcode is read. The image reader ask the acquisition workstation, via network connection between acquisition workstation and image reader, which patient data is associated with the cassette.

When patient data is established in the image reader, the read out process of the imaging plate starts and the digital image and patient data are stored in a file on the reader HDD. The gray scale depth of this image is 11bit/pixel.

The image data is transformed in a computing process called EDR to a image with gray scale depth of 10 bit/pixel and transferred to the acquisition workstation together with the patient data.

In the acquisition workstation, data from connected units are collected and co-ordinated to control current study and display results from current study as well as store the study and its images.

Via a network or local recourses, images or studies can be saved, transferred, retrieved or output to hardcopy camera.

Images are stored or output in DICOM-format.

This page intentionally left blank.

Cables

Cable between		Connector type		Length	Transmitted data	Comments
Acquisition workstation	LCD monitor	DVI-D	DVI-D	1 m	Monitor image	
Acquisition workstation	SIMOMED monitor	HD-DB15M	HD-DB15M	1 m	Monitor image	
Acquisition workstation	Keyboard	PS/2	PS/2	1.5 m	Keyboard	
Acquisition workstation	Barcode scanner cable	Acquisi-tion work-station	Scanner	15 m	RS232 Barcode data	Siemens material No. 66 09 569
Barcode scanner cable	Barcode scanner	DB9F	Datalogic scanner connector	1.5 m	Barcode data	
Acquisition workstation	Image reader Hardcopy camera if no network	RJ45 Red	RJ45 Red	20 m	Ethernet, cat. 5 cable (crossed-over) FINP/ OEM Patient and barcode data	Siemens material No. 66 01 616
Acquisition workstation	M3000 Nova stand or communica-tion switch	PC	X205	15 m	RS232 Exposure parameters	Siemens material No. 66 09 551
M3000 Nova generator	M3000 Nova stand	X2	X205	6 m	RS232 Exposure parameters	Siemens material No. 66 09 593
M3000 Nova	Mains	See MAMMOMAT 3000 Nova Wiring Diagrams			Incoming mains	
Acquisition workstation	MOD drive	Centronics C50	HPDB 50	2 m	SCSI 2 Patient and image data, DICOM	
Acquisition workstation	Network	RJ45	RJ45	25 m	Ethernet, cat. 5 cable Patient and image data, DICOM	Siemens material No. 66 01 582
Network	Archive system	RJ45	RJ45	*	Ethernet, cat. 5 cable Image data, DICOM	
Network	HIS/RIS	RJ45	RJ45	*	Ethernet, cat. 5 cable Patient data, DICOM	
Network	Viewing station	RJ45	RJ45	*	Ethernet, cat. 5 cable Image data, DICOM	

Network	Hardcopy camera	RJ45	RJ45	*	Ethernet, cat. 5 cable DICOM print	

* see product-accompanying documentation.

Fuses

See product-accompanying documentation.

Page	Chapter	Change
1-2	Additional parts to the DIGISCAN M system	Text changes.
1-2	Abbreviations	Corrected explanation of the abbreviation RAM.
2-1	Cable connections	Communication switch (option) is added to the figure. New connections for barcode scanner and keyboard is added to the figure.
2-2	Block diagram	Communication switch (option) is added to the figure. New connections for barcode scanner and keyboard is added to the figure.
3-1	Acquisition workstation connectors	Number 3 is keyboard interface and power supply for the barcode scanner. Number 6 is dongle interface. Number 10 is barcode scanner interface.
5-1	Cables	Datatype for cable between acquisition workstation and keyboard has changed to only keyboard. Cable between Acquisition workstation and barcode decoder removed. Cable between Acquisition workstation Barcode scanner cable is added Cable between acquisition workstation and image reader (or hardcopy camera if no network) changed to 20 m. Cable between acquisition workstation and M3000 Nova stand or communication switch changed to 15 m. “*” are new.
5-2	Cables	Lenght of cable between network and viewing station is approximately 25 m.

This page intentionally left blank.